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9.0 AOCs 9, 11, 40, SA 6, 12, 13, 41 (SOLID WASTE) FIVE-YEAR SITE REVIEW

9.1 SITE DESCRIPTION AND HISTORY

This subsection describes the debris disposal sites, including a summary of contaminant characterization. A summary of post-investigation, CERCLA-related site history is also presented.

SAs 6 and 12, and AOC 41 are located on the South Post (see Figure 1-1). AOC 9 is located on the former North Post of Fort Devens. AOCs 11 and 40, and SA 13 are located on the former Main Post of Fort Devens.

SIs were performed at SAs 12 and 13, and AOCs 9, 40, and 41 to verify the presence or absence of environmental contamination and to determine whether further investigation or remediation was warranted. Supplemental SI activities were performed at SAs 12 and 13, and AOC 41 to address data gaps identified in the SI reports. RIs were completed at AOCs 11, 40, and 41 to further assess contaminant distribution; the RIs included baseline human-health and ecological risk assessments for the three sites.

Predesign investigations were performed at SAs 6, 12, and 13, and AOC 9 (ABB-ES, 1994b) to define depth, areal extent, type of waste, composition of waste, and site conditions to help identify appropriate remedial alternatives.

Descriptions of the landfill sites, including contamination assessments and risk evaluations, where applicable, are available in the data packages, SI reports, and RI reports listed in Table 9-1 in Appendix G. These relevant documents were reviewed as part of the five-year review.

9.1.1 Description and History of SA 6

SA 6 is located on the eastern side of Shirley Road on the South Post (see Figure 1-1). The South Post is to be retained by the Army for continued military training. SA 6 was used between 1850 and 1920, prior to Army ownership, for disposal of household debris. Debris was deposited in a low area, less than one-quarter acre in size, south of the access road (Figure 9-1). SA 6 is moderately forested with hardwood trees. The disposal area has not been covered, and debris is visible on the ground surface.

Army investigations at SA 6 determined that the landfill contains household debris, primarily metal and glass. The volume of debris in the landfill is approximately 500 cy. Archaeologists have determined that SA 6 may be valuable in researching the socioeconomic status and trash disposal behavior of 19th Century northern Lancaster residents.

9.1.2 Description and History of AOC 9

AOC 9 is located on the former North Post, north of Walker Road and west of the wastewater

treatment plant (Figure 1-1). The landfill was operated from the late 1950s until 1978 and was used by the Army, National Guard, contractors, and off-post personnel. Landfill material at AOC 9 is generally demolition debris, including wood, concrete, asphalt, metal, brick, glass, and tree stumps. Debris volume is estimated to be approximately 112,000 cy. Because of the extent of the partially vegetated cover, the area is generally not recognizable as a former landfill.

A geophysical survey was performed during the SI to supplement information derived from evaluation of aerial photographs and to help delineate the actual limits of the landfill. The results of the survey assisted in the placement of test pits and groundwater monitoring wells, and provided insight into the distribution of landfill debris. Results of the geophysical survey indicated that the landfill consists of five areas: a larger northern pod containing the majority of landfilled materials, and four smaller southern pods adjacent to the wetlands containing mostly near-surface debris (Figure 9-2).

AOC 9 Surface Water Contamination. During the SI at AOC 9, surface water samples were collected from the Nashua River and the swampy area south of the debris landfill. Concentrations of some inorganics were measured above background concentrations. The SI report suggested that inorganic concentrations in the river likely represent typical Nashua River water quality in the general area. The SI report concluded that contaminant effects on surface water from AOC 9 debris are probably not significant.

AOC 9 Sediment Contamination. Relatively low concentrations of TPHC and some inorganics are present in sediment samples collected from the swampy area south of the debris landfill. Relatively low concentrations of VOCs and SVOCs were measured in sediment samples collected from the Nashua River. Concentrations of inorganics in Nashua River sediment samples were relatively consistent upstream and downstream of AOC 9, and likely represent typical Nashua River sediment quality in the area. The SI report concluded that contaminant effects on sediment from AOC 9 debris are probably not significant.

AOC 9 Surface Soil Contamination. Organic contaminants were not detected in surface soil samples collected at AOC 9. The inorganics copper, lead, and nickel were detected at concentrations above the concentrations established as background at Devens RFTA, but below residential standards set by USEPA. Arsenic was detected at a concentration above USEPA residential standards, but below Devens RFTA background.

AOC 9 Subsurface Soil Contamination. Organic compounds detected in AOC 9 subsurface soil consist mostly of PAHs and TPHC. Because of their consistent co-location in samples collected from AOC 9, PAHs and TPHC are believed to be present as a result of charred lumber and ashes mixed with the demolition debris. Except for arsenic and beryllium, maximum concentrations of inorganics detected in subsurface soil were below screening standards established by USEPA for protection of a commercial/industrial worker. The maximum concentration of arsenic was equal to the Devens RFTA background concentration, and the maximum concentration of beryllium (1.0 µg/g) was higher than the commercial/industrial standard (0.67 µg/g).

AOC 9 Groundwater Contamination. Two rounds of groundwater samples were collected from

monitoring wells at the site during the investigation. Two organic compounds were detected in AOC 9 groundwater. Chloroform was detected in one of ten samples collected during Round 1. The chloroform concentration was below the Massachusetts drinking water standard. TPHC was detected in three of ten samples, once in Round 1 and twice in Round 2. No drinking water standard or guideline exists for TPHC.

Inorganics were detected above background concentrations in nearly all groundwater samples collected from AOC 9 monitoring wells. Several organics were detected in up-, down-, and cross-gradient wells. Maximum concentrations of eight of the eighteen inorganics detected in unfiltered Round 1 samples exceeded their respective drinking water standard or guideline. The eight inorganics are aluminum, arsenic, chromium, cobalt, iron, lead, manganese, and nickel. Filtered samples collected during Round 2 showed reductions in concentrations of these inorganics, suggesting that elevated concentrations are result from suspended solids in the samples. During Round 2, reported concentrations of chromium, lead, and nickel were below their respective drinking water standards or guidelines.

9.1.3 Description and History of AOC 11

AOC 11 is located east of Lovell Road on the Main Post, adjacent to the Nashua River (Figure 1-1). The two-acre landfill received wood-frame hospital demolition debris from 1975 to 1980. Debris volume is estimated to be approximately 35,000 cy. The landfill is within a wetlands complex that runs along the western side of the Nashua River (Figure 9-3). East of the landfill, a 40-foot wide soil berm separates the landfill from the Nashua River. Refuse, including large pieces of metal, wood, bricks, and other construction debris is exposed at the ground surface throughout the site, except where an access road has been constructed over the fill. The landfill area is vegetated and is bordered on the north and south by wetlands.

The RI report for AOC 11 concluded the primary mode of contaminant transport from the debris landfill is by surface water runoff into the wetland areas adjacent to the landfill, where a significant proportion of contaminants sorb to sediments. Surface water in the wetlands contains metals and PAHs. However, the Nashua River contains metals and PAHs in surface water both adjacent to and upstream of AOC 11. Contamination in wetland surface water could be attributed to Nashua River contamination, and may not be related to AOC 11 debris.

AOC 11 Sediment Contamination. Sediments in the Nashua River and in wetland areas adjacent to the debris landfill contain pesticides, PCBs, PAHs, and metals. Pesticides concentrations were below Devens RFTA background concentrations; it is not clear whether PCBs, detected at relatively low concentrations in sediment, are from the debris area or from the Nashua River during periodic flooding; PAHs could be attributable to the Nashua River, and may not be related to AOC 11 debris; some metals were detected in sediment at concentrations exceeding Devens RFTA background concentrations.

AOC 11 Surface Soil Contamination. Pesticide concentrations measured in surface soil samples were, with the exception of one sample, below Devens RFTA background concentrations. Higher concentrations of PAHs were measured in surface soil samples collected within the debris area,

compared to those collected outside the area. Metals were detected at concentrations exceeding background values at sample locations throughout the site.

AOC 11 Groundwater Contamination. Two rounds of groundwater sampling were collected for analysis during the RI. Relatively low concentrations of the pesticides DDD and DDT were detected in one monitoring well during the first round. Several metals were detected in groundwater during both sampling rounds. The highest metals concentrations were found in the northernmost groundwater monitoring well 11M-94-05X. Higher concentrations, and more metals types were detected in the shallower wells screened near the water table, while lower metals concentrations were detected in the deep well screened just above bedrock. Sampling results indicated that assorted metals at concentrations above and below respective drinking water standards and guidelines are being transported from the debris landfill to the Nashua River via groundwater flow.

9.1.4 Description and history of SA 12

SA 12, about one-half acre in size, is located on a steep, wooded slope adjacent to the Nashua River floodplain and partially encroaching on wetlands on the South Post. The landfill is located across Dixie Road from B and P Ranges (Figures 1-1 and 9-4). SA 12 was used by the Army beginning in 1960, was still in use in 1982, and appeared in 1988 to have been inactive for several years. The debris came from construction and range operations.

Debris at SA 12 consist mostly of lumber, sheet metal, concrete, and leaves mixed with soil. Debris volume is estimated to be approximately 8,700 cy .

SA 12 Surface Water Contamination. Inorganics were detected in surface water samples collected between the SA 12 debris area and the Nashua River. These detections could be attributable to Nashua River contamination, and may not be related to SA 12 debris.

SA 12 Sediment Contamination. Sediments between the SA 12 debris area and the Nashua River contain PAHs, TPHC, pesticides, and inorganics. Concentrations of similar contaminants in Nashua River sediment were higher than those in sediment at the foot of the debris area. This suggests that the river itself contributes to sediment contamination at the foot of the debris area.

SA 12 Surface Soil Contamination. The highest concentrations of PAHs, TPHC, pesticides, and inorganics measured in surface soil at SA 12 were associated with samples collected from the soil directly above the debris landfill. Evaluation of samples collected at SA 12 indicate that the majority of potential human-health and ecological risk from surface soil results from stained soil directly above the debris area.

SA 12 Groundwater Contamination. Organic compounds were not detected in groundwater samples collected at SA 12. Inorganic compounds were detected in unfiltered groundwater samples collected from shallow sumps downgradient from the debris landfill. It is believed that concentrations of inorganics detected in groundwater at SA 12 are largely the result of suspended solids in the samples.

9.1.5 Description and History of SA 13

SA 13 was used between 1965 and 1990 for disposal of construction debris, stumps, and brush. Debris volume is estimated to be approximately 10,000 cy. The landfill is less than one acre in size and is located on the west side of Lake George Street near Hattonsville Road on the former Main Post (Figures 1-1 and 9-5). SA 13 is surrounded by large trees, but no trees are growing on the landfill itself. Tree stumps, limbs, and trunks have been deposited on the surface of the landfill and down the steep lower slope. A wetland is located at the base of this slope.

In 1989 disposed stumps, branches, steel fencing, plumbing fixtures and pipes were removed from the site. The landfill is currently closed to debris disposal.

SA 13 Surface Water Contamination. Organic and inorganic compounds were detected in surface water samples collected from the wet area at the toe of the debris area. Nitroglycerine was detected in one of four surface water samples, at a concentration above its drinking water standard. Inorganic compounds in surface water, particularly mercury, present potential risk to sensitive aquatic ecological receptors.

SA 13 Sediment Contamination. Sediments at SA 13 contain PAHs, TPHC, pesticides, and inorganics. Pesticides in sediment present potential risk to sensitive aquatic ecological receptors.

SA 13 Surface Soil Contamination. Soil samples collected from stained areas directly over the debris area contained PAHs, TPHC, pesticides, and inorganics. Surface soil samples collected directly from the debris area contained higher concentrations of contaminants than those collected downgradient from the landfill.

SA 13 Groundwater Contamination. Contaminants detected in groundwater at SA 13 are primarily inorganics. It is believed that concentrations of inorganics detected in groundwater at SA 13 are attributable to suspended solids present in the unfiltered samples.

9.1.6 Description and History of AOC 40

AOC 40 occupies approximately four acres along the edge of Patton Road in the southeastern part of the former Main Post of Fort Devens. It extends for approximately 800 feet along Patton Road and out into the former wetland along Cold Spring Brook, now mostly submerged beneath Cold Spring Brook Pond (Figures 1-1 and 9-6). The upper surface of the landfill slopes gently toward the north and east. The surface is densely covered with small trees and scrub, the trees being predominantly pines. The edge of the landfill falls off abruptly to the wetland or to the pond with an elevation drop that ranges between 10 and 20 feet.

Debris in the landfill is mostly wood, concrete, asphalt, metal, brick, wire, ash, stumps, and logs. Debris volume is estimated at approximately 110,000 cy. The AOC 40 landfill is located approximately 600 feet from the Patton water supply well, within the well's recharge zone.

AOC 40 Surface Water Contamination. Inorganic compounds were detected in surface water samples collected from Cold Spring Brook Pond. Surface water contamination does not pose a risk to ecological receptors at the debris disposal area.

AOC 40 Sediment Contamination. Sediments in Cold Spring Brook Pond contain PAHs, pesticides, and inorganics. Risk to ecological receptors at two isolated areas in the pond are attributed to arsenic and the pesticide DDD.

AOC 40 Surface Soil Contamination. Samples collected from the debris landfill soil cover contain PAHs, pesticides, and inorganics. The relatively low concentrations of surface soil contaminants pose neither human-health nor ecological risks.

AOC 40 Groundwater Contamination. Groundwater quality at AOC 40 was characterized during two rounds of sampling during the RI, and during two rounds of sampling during the supplemental RI. Contaminants detected in groundwater are primarily inorganics. At this point in time, under existing conditions, the Army has concluded that AOC 40 is not a source of inorganic groundwater contamination.

9.1.7 Description and History of AOC 41

AOC 41 is located on the former South Post of Fort Devens, approximately one-half mile west of the Still River Gate, on the north shore of New Cranberry Pond (Figure 1-1 and 9-7). The landfill, less than one-quarter acre in size, was used up to the 1950s for disposal of non-explosive military and household debris. The site is overgrown with trees and brush.

Debris at AOC 41 includes beverage cans, bottles, and motor vehicle parts. Debris volume is estimated to be approximately 1,500 cy.

AOC 41 Surface Water Contamination. Organic and inorganic contaminants were detected in surface water samples collected from New Cranberry Pond, near AOC 41. The concentrations are not considered significant.

AOC 41 Sediment Contamination. Pesticides and inorganics were detected in sediment samples collected from New Cranberry Pond near AOC 41. It is unlikely that the contaminants pose a risk to ecological receptors.

AOC 41 Surface Soil Contamination. TPHC, PAHs, pesticides, and inorganics were detected in surface soil samples collected at the landfill. Some contaminant concentrations exceeded screening standards established by USEPA for protection of potential residents living at the site. There are no residents occupying the site. Surface soil contaminants were found to pose no risk to ecological receptors.

AOC 41 Groundwater Contamination. During the RI performed at AOC 41, it was determined that the source of groundwater contamination was not the landfill debris. In the 1996 SPIA ROD, the Army selected No Action with long-term groundwater monitoring as the remedy for

groundwater.

9.1.8 Post-Site Investigation History

A history of post-site investigation activities related to Fort Devens landfill remediation is presented in this subsection. Referenced relevant documents, summarized in Table 9-2 in Appendix G, were reviewed as part of the five-year review.

The Landfill Consolidation FS Report (ABB-ES, 1995a) contained an evaluation of options to consolidate debris from the seven landfills into a single waste disposal site. After reviewing the FS report, the U.S. Army Forces Command (FORSCOM) requested evaluation of non-consolidation, containment options such as capping landfills in-place. In response to FORSCOM comments, the Debris Disposal Area Technical Memorandum (ABB-ES, 1996b) was issued in February 1996. The memorandum evaluated a cap-in-place and a consolidation option for each of the seven landfills.

To further respond to FORSCOM comments, the Landfill Remediation FS Report was prepared (ABB-ES, 1997). This FS report evaluated nine debris management alternatives, including various combinations of no further action, capping in-place, and debris removal and consolidation.

In the December 1997 Proposed Plan, the Army proposed an alternative that consisted of debris removal at three of the debris disposal areas (AOCs 9 and 40, and SA 13), with consolidation at a new landfill to be constructed in the area near the existing Shepley's Hill Landfill. Public comment on the Plan indicated a community preference for debris disposal either in an offsite landfill, or in a new onsite landfill in an alternate location. Because of the site's proximity to the Nashua River floodplain, the community also indicated a preference for full excavation and removal of debris from AOC 11.

In response to public comment, the Army issued a second Proposed Plan in November 1998. The proposed alternative included full debris removal at AOCs 9, 11, and 40, and SA 13, with disposal either at an offsite landfill, or at a new onsite landfill to be constructed at the former Golf Course Driving Range. The proposed alternative was evaluated in detail in the Landfill Remediation Feasibility Study Addendum Report (HLA, 1998).

A ROD was issued in July 1999 (HLA, 1999). The ROD presented the selected remedial actions for the seven debris disposal areas.

9.2 REMEDIAL OBJECTIVES

Remedial response objectives were defined during the FS to aid in developing and screening alternatives. The objectives aim to mitigate existing and future potential threats to human health and the environment. The response objectives are:

- Prevent human exposure to groundwater contaminants released from Fort Devens

landfills that exceed acceptable risk thresholds.

- Protect human and ecological receptors from exposure to landfill soils having concentrations of contaminants exceeding acceptable risk thresholds.
- Prevent landfill contaminant releases to surface water that result in exceedance of AWQC or acceptable ecological risk-based thresholds.
- Prevent exposure by ecological receptors to landfill-contaminated sediments exceeding acceptable risk-based thresholds.
- Reduce adverse effects from contaminated landfill media to the environment which would reduce the amount of land area available for natural resources use.
- Support the civilian redevelopment effort at Devens.

9.3 DESCRIPTION OF REMEDY

Key components of the selected remedy presented in the ROD include:

SA 6

No further action

SA 12, AOC 41

- Mobilization/demobilization
- Site preparation
- Surface debris removal
- Known hot-spot removal
- Backfilling/regrading/revegetation
- Site monitoring

AOC 9, AOC 11, SA 13, AOC 40

- Mobilization/demobilization
- Site preparation
- AOC 40 sediment removal with disposal either in the Consolidation Landfill or offsite
- AOC 40 drum removal with disposal either in the Consolidation Landfill or offsite
- Debris excavation, backfill, and regrading
- Wetlands restoration at AOC 9, AOC 11, and AOC 40
- Consolidation of excavated debris at onsite Consolidation Landfill, or transport to an offsite landfill
- If required, cover system monitoring and maintenance at Consolidation Landfill
- Institutional controls and five-year site reviews at those sites where unrestricted future use is not achievable or economical

The decision to proceed with on-site consolidation was issued June 30, 2000, and a temporary (120 day) access agreement to begin construction was signed on September 15, 2000.

9.4 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS REVIEW

Standards identified as ARARs appeared in the ROD (see Tables B.1, B.2, and B.3 in Appendix G) These were reviewed for changes that could affect protectiveness.

Standards relative to landfill remediation determined to be applicable, relevant and appropriate, or to be considered, have not become more stringent since the signing of the ROD in 1999. In addition, no new standards promulgated since the ROD signing were identified. However, revisions to existing setback requirements for the construction of new solid waste disposal facilities are currently being considered by the MADEP. Draft revisions to 310 CMR 16.00 were issued in 1999, have undergone a public hearing phase, and may be promulgated by the Fall of 2000. The proposed setback requirements are more stringent than the current standards used to select the former Golf Course Driving Range as the most desirable site among those evaluated. The effect of the proposed regulation revisions may be to reduce the area considered suitable for constructing a new debris consolidation landfill, should that disposal option be selected.

9.5 SUMMARY OF SITE VISIT

An HLA representative performed site inspections at AOCs 9, 11, 40, 41, and SAs 6,12, and 13 on June 8, 2000. Conditions during the inspection were favorable with no precipitation and temperatures in the 60s.

There was no evidence of excavation or disturbance at any of the landfill sites. The majority of the sites had become overgrown with trees and shrubs and were difficult to recognize. Inspected monitoring well casings were intact and secured.

The following individuals were interviewed as part of the five-year review:

- Jim Chambers, BRAC Environmental Coordinator, Devens RFTA
- John Regan, MADEP
- David Margolis, USACE, New England District

All personnel were interviewed on June 8, 2000 at the Devens RFTA BRAC office. There is no selected remedy as of the time of the interview so discussion was limited. None of the personnel were aware of any reported problems with any of the sites.

John Regan stated that MADEP was concerned with the delay over the announcement of the remedy.

9.6 AREAS OF NON-COMPLIANCE

Because planned remediation for the debris disposal areas has not yet been implemented, observations regarding deficiency cannot be made. At present, there are no deficiencies that would prevent planned response actions from being protective of human health and the environment, nor are any expected in the future.

9.7 ASSESSMENT

The planned remediation for the debris disposal areas has not yet been implemented. The planned remedy is expected to be protective of human health and the environment upon completion. There have been no changes to ARARs, exposure pathways, contaminant characteristics, or risk assessment methodologies since the time of the ROD. No additional information has been identified that would call into question the expected protectiveness of the planned remedy.

9.8 RECOMMENDATIONS

There are no site operations ongoing at the debris disposal areas. Because planned remediation has not yet been implemented, there are no recommendations for improvements.

As discussed in Subsection 9.4, more stringent requirements for siting new solid waste disposal facilities are being considered by the MADEP. If promulgated prior to receipt of a permit and site assignment for consolidation landfill construction at the former Golf Course Driving Range, revised requirements may reduce the area currently considered suitable for landfill construction. It is recommended that: (1) the Army submit the permit application for new landfill construction to the MADEP, if onsite disposal is selected as the most desirable option, and (2) proposed revisions to the setback requirements be evaluated for potential reduction of the area currently considered suitable for landfill construction.

9.9 PROTECTIVENESS STATEMENT

The planned remediation for the debris disposal areas has not yet been implemented. When completed, the remedy is expected to meet remedial action objectives, and be protective of human health and the environment.

9.10 NEXT REVIEW

The debris disposal areas are statutory sites that require ongoing five-year reviews. The next review will be performed within five years of the completion of this five-year review report. The completion date is the date on which USEPA issues its letter to the Army either concurring with report's findings or documenting reasons for nonconcurrence.

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ABB-ES	ABB Environmental Services, Inc.
AOC	Area of Contamination
ADL	Arthur D. Little, Inc.
AAFES	Army Air Force Exchange Service
AOC	Area of Contamination
AREE	area requiring environmental evaluation
ARAR	applicable or relevant and appropriate requirements
AWQC	Ambient Water Quality Criteria
bgs	below ground surface
BEHP	bis(2-ethylhexl)phthalate
BRAC	Base Realignment and Closure
BTEX	benzene, toluene, ethylbenzene, and xylene
CBD	Commerce Business Daily
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CMR	Code of Massachusetts Regulations
cm/sec	centimeters per second
COC	contaminant of concern
COPC	chemical of potential concern
cPAH	carcinogenic polynuclear aromatic hydrocarbon
cy	cubic yards
DCA	dichloroethane
DDD	2,2-bis(para-chlorophenyl)-1,1-dichloroethane
DDE	2,2-bis(para-chlorophenyl)-1,1-dichloroethene
DDT	2,2-bis(para-chlorophenyl)-1,1,1-trichloroethane
DRMO	Defense Reutilization and Marketing Office
EPH	Extractable Petroleum Hydrocarbons
ER-L	effects range-low
FFA	Federal Facility Agreement
FORSCOM	U S Army Forces Command
FS	Feasibility Study
HASP	Health and Safety Plan
HI	hazard index
HLA	Harding Lawson Associates
HQ	hazard quotient
IAG	Interagency Agreement
IDW	investigation-derived waste
IRP	Installation Restoration Program

kg	kilograms
LTMP	Long-term Monitoring Plan
MADEP	Massachusetts Department of Environmental Protection
MCL	Maximum Contaminant Level
MCP	Massachusetts Contingency Plan
MEP	Master Environmental Plan
mg/L	milligrams per liter
MMCL	Massachusetts Maximum Contaminant Level
MOGAS	motor vehicle gasoline
NCP	National Contingency Plan
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priorities List
NYSDEC	New York State Department of Environmental Conservation
O&M	operation and maintenance
PA	Preliminary Assessment
PACE	People of Ayer Concerned about the Environment
PAH	polynuclear aromatic hydrocarbon
PAL	Project Analyte List
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PCL	protective contaminant levels
PID	photoionization detector
POTW	Publicly-Owned Treatment Works
PRE	preliminary risk evaluation
PRG	preliminary remediation goals
RAB	Restoration Advisory Board
RAO	remedial action objectives
RfD	reference dose
RFTA	Reserve Forces Training Area
RG	remediation goal
RI	Remedial Investigation
RME	reasonable maximum exposure
ROD	Record of Decision
SA	Study Area
SARA	Superfund Amendments and Reauthorization Act
SI	Site Investigation
SMCL	Secondary Maximum Contaminant Level
SPIA	South Post Impact Area
SQC	sediment quality criteria

SVOC	semivolatile organic compound
TAL	Target Analyte List
TCE	trichloroethene
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TDA	Table of Distributions and Allowances
TOC	total organic carbon
TPHC	total petroleum hydrocarbons
TRC	Technical Review Committee
TSCA	Toxic Substance Control Act
µg/g	micrograms per gram
µg/L	micrograms per liter
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VPH	volatile petroleum hydrocarbons
VOC	volatile organic compound
WRS	Wetland Restoration Specifications